MARYLAND DEPARTMENT OF THE ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION

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Response to Public Comments Regarding

Upper Potomac River Commission

State Discharge Permit Application No. 05-DP-0230

NPDES Permit No. MD0021687

Date: July 14, 2014

The Department has been processing an application submitted by the Upper Potomac River Commission (UPRC), 528 Maryland Avenue, Westernport, MD 21562 for renewal of a permit to discharge an average of 21.9 million gallons per day of paper mill wastewater and sanitary wastewater (from the mill and the cities of Westernport, Luke, and Piedmont) from a publicly-owned wastewater treatment plant, located at 528 Maryland Ave., Westernport, MD, to the North Branch Potomac R. (Use I-P).

On February 20th and 27th, 2013, the Department published a tentative determination to reissue the permit. The Department held a public hearing on March 26, 2013 and the comment period closed June 1, 2013. The Department received comments on the tentative determination during the public comment period. In response to the comments and staff review, the Department has made the following revisions in the final permit:

1. A total nitrogen annual loading limitation of 79,218 lbs/year and a total phosphorus annual loading limitation of 30,773 lbs/year are included in the final permit to conform with the wasteload allocations under the Chesapeake Bay TMDL limiting the amount of nitrogen and phosphorus which UPRC can add to the receiving waters. The limits are applied on a net basis to account for any background concentration levels of nutrients in intake river water as measured upstream of both UPRC and Newpage Corporation at the point of the river water intake canal. Monitoring frequency in the final permit will increase to twice per week instead of once per week for nitrogen and for phosphorus. The effective date of the annual loading limits is January 1, 2015.

2. With the addition of the TMDL loading limitation for total nitrogen, the concentration limits for total nitrogen will be continued from the previous permit of 4 mg/l average and 8 mg/l daily maximum, which are more stringent than limits otherwise required at enhanced nutrient removal treatment facilities (ENR) even though this facility is not an ENR facility.

3. Additional provision added so that this permit may be reopened by the Department to propose new or revised limitations to protect water quality standards for the receiving stream if water quality impacts to the receiving stream resulting from this effluent are identified by the Department.

4. Minor typographical corrections and clarifications.

A summary of the significant comments and the Department's responses are provided below.

1. COMMENT

MDE must include a total nitrogen annual maximum loading rate as a limit, rather than the goal that is currently established in the draft NPDES permit.

RESPONSE

The Environment Protection Agency’s (EPA) reviewed the tentative determination and determined that a total nitrogen annual maximum loading limit needed to be included in the

renewal permit to maintain conformance with the Chesapeake Bay TMDL. MDE agrees and has added a total nitrogen limitation of 79,218 lbs/year in the final permit to conform with the wasteload allocations under the Chesapeake Bay TMDL limiting the amount of nitrogen (and phosphorus) which UPRC can add to the receiving waters. A net limit is applicable because the source intake water used for the industrial water is river water from upstream of UPRC and Newpage Corporation, and the facility is only responsible for the Total Nitrogen loading that is added to the receiving waters. The Department has also increased the monitoring frequency for nutrients from 1/week to 2/week.

2. COMMENT

The commenter requested "the specific Code of Federal Regulations citation on which the time limit in Special Condition 8 on page 5 of the Tentative Determination, allowing pH to exceed the permit limit for up to 7 hours and 26 minutes per month, is based."

RESPONSE

MDE based Special Condition 8 of the Tentative Determination on the 40 Code of Federal Regulations (CFR) 401.17.

3. COMMENT

The commenter requested the following: "Additional information on the proposed temperature limits and thermal and mixing zone. Specially, does the permit itself specify the size of the mixing zone, and how the mixing zone relates to the temperature limit contained in the permit? Are the limits and mixing zone based on water quality standards or technology? Also, did the Maryland Department of the Environment ("MDE") consider potential impacts on the aquatic life, such as the potential for the effluent to create a thermal barrier, in determining the allowable temperature and mixing zone? Finally, please identify the specific regulations that MDE relied on to determine the mixing zone."

RESPONSE

The temperature limit and mixing zone are based on water quality standards. The permit requires that the effluent be discharged in a manner compliant with Code of Maryland Regulations (COMAR). The temperature limit of 100°F was established using the COMAR 26.08.03.03(C)(1) mixing zone criteria, which allows 50 feet radially from the point of discharge to meet the COMAR 26.08.02.03-3(A)(3)(a) temperature water quality standard of 90°F.

MDE used COMAR 26.08.02-3 (A)(3)(b) as a basis in determining the allowable temperature. COMAR 26.08.02-3 (A)(3)(b) states that "…A thermal barrier that adversely affects aquatic life may not be established". MDE also considered the cooling treatment that is a part of the treatment process at the facility. The cooling treatment is necessary to ensure that discharge from the facility does not negatively impact the surface waters.

4. COMMENT

The commenter requested "a detailed explanation of the conversion factor and limit for color in the tentative determination. Specially, how and why did MDE select the particular conversion factor? Is the limit for color in the permit technology-based or water quality-based? Finally, what impact will the proposed limit for color have on water quality in the Potomac River?"

RESPONSE

The instream concentration limit is water-quality based. The proposed end of pipe color loading limit is technology based and has been developed based on the previous treatment concentration requirement of 450 Platinum-Cobalt Units (PCU). The conversion factor of 8.34 simply allows us to multiply a flow (in units of MGD) times a concentration (in units of mg/L) and get an answer in lbs/day. By definition a PCU has units of mg/L. Specifically a PCU is one mg of platinum/L in the form of the chloroplatinate ion(1).

The permit loading limit is based on a stringent flow volume of 20 mgd over a 30 day period when at the time the permit was being developed the average 365 day flow was 22 mgd, which indicates that monthly flow volumes are higher than 22 mgd.

A color loading limitation should achieve more consistent protection of stream color than a concentration limitation. Color is a complex characteristic and requires flexibility to achieve further reductions. This revised limitation will result in a significant reduction in allowed color discharges while providing necessary flexibility to implement additional recycling and water use reduction improvements that the previous permit's concentration limit would otherwise discourage or prevent.

Footnote

(1) Standard Methods for the Examination of Water and Wastewater, Method 2120 B